

REMARKS

The claims in the application are claims 1-9.

Claims 1-7 and 9 have been rejected under 35 USC § 103(a) as being unpatentable over Smith et al., US 4,358,362 (Smith) in view of the prior art admitted by applicants. Claim 8 has been similarly rejected further in view of Chu et al., US 5,334,795 (Chu). These rejections are respectfully traversed.

Applicants' claims are drawn to a process of preparing alkylbenzenes by catalytic reaction of benzene with olefins. The improvement is that the olefin containing feed stream, e.g., ethylene, is passed over an adsorption layer for purification prior to the reaction. Specific adsorption materials are recited in claim 2. Claim 8 expressly states that the "reaction" may be carried out in the liquid or gaseous phase. The antecedent for "reaction" is the alkylation reaction and not the olefin purification step. Actually, all of the claims are open to the same alternatives as cited in claim 8, so the disclosure of Chu is essentially irrelevant.

The essential disclosure of Smith is a purification process for dewaxing hydrocarbon oils that have undesirably high pour points. See col. 4, lines 3-5. Simpler aromatic hydrocarbons are also disclosed as purification candidates. See col. 14, lines 55-61. However, in each case the material treated is an aromatic hydrocarbon of some type.

The examiner, with no explanation based on logic and sound scientific reasoning (*Ex parte Levengood*, 28 USPQ2d 1300 (BPAI 1993)), has simply leapt to the

unsupported conclusion that it would have been obvious to apply the Smith process to alkylanes such as ethylene. That type of conclusion is contrary to the requirements of MPEP §§ 706.02(j) and 2141-2143.03, and the cases cited therein. See particularly *In re Jones*, 958 F.2d 347, 351, 21 USPQ2d 1941, 1943-44 (Fed. Cir. 1992).

Similarly to Smith, none of the documents cited on page 1 of the present specification, which are concerned with the lifetime of zeolite catalysts for alkylation or transalkylation reactions, suggests any pretreatment of the ethylene feed. Especially WO 98/07673 shows that it was not obvious to pretreat the ethylene feed, since WO 98/07673, like Smith, mentions benzene as the specific feed to be pretreated in an alkylation process.

Specific evidence leading to a contrary conclusion from that drawn by the examiner can be found in *Ullmann's Encyclopedia of Industrial Chemistry*, Vol. A10, p. 45, where the physical properties of ethylene are disclosed. The critical temperature of ethylene is 9.9°C. The critical pressure is 5.12 MPa. In other words, ethylene and similar olefins are not liquid under essentially all of the conditions disclosed by Smith and would most certainly not be considered a "waxy hydrocarbon oil that has a pour point that is undesirably high" to which the Smith disclosure is addressed.

In light of the foregoing comments it can be seen that the examiner's leap to a conclusion of obviousness from the reference disclosures is clearly erroneous, and the rejections should be withdrawn, and this application should be passed to issue.

Favorable consideration of this paper is respectfully requested.

UHR et al., Serial No. 10/030,431

Attached is a check in the amount of \$110.00 to cover the required one month extension of time fee.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

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